Health and Welfare Canada
Santé et Bien-être social Canada

Canada

Alcohol
In Canada

Published by the authority of the
Minister of National Health and Welfare

Suggested citation:

Health and Welfare Canada (1989)
Alcohol in Canada
Edited by Marc Eliany

© Minister of Supply and Services Canada, 1989
Cat. No. H39-158/1989E
ISBN 0-662-17135-7

Également disponible en français sous le titre
"L'alcool au Canada"

91-01324/

ALCOHOL IN CANADA

PREFACE

On May 25, 1987, the federal government formally launched the National Drug Strategy, "Action on Drug Abuse." The overall objective of the strategy is to reduce the harm to individuals, families and communities from the abuse of alcohol and other drugs through a balanced and co-ordinated approach that is acceptable to Canadians.[1]

At every level, efforts against substance abuse rely upon accurate and timely information about the nature, extent, patterns and consequences of such abuse. This report, Alcohol in Canada, and its companion report, Licit and Illicit Drugs in Canada, were developed by the Health Promotion Directorate to address these needs as part of its contribution to the National Drug Strategy.

Alcohol in Canada draws together data from an array of sources to document recent Canadian trends relating to alcohol use, including: alcohol sales, alcohol use by Canadian adults and Canadian youth, and the deleterious health consequences associated with misuse and abuse.

Alcohol in Canada reveals that some progress has been made in reducing alcohol use in Canada. There are indications that its consumption in Canada has levelled off in recent years, and begun slowly to decline. Nevertheless, it also reveals that the social, economic and health costs of alcohol-related damage still remain unacceptably high.

Acknowledgements

We wish to thank Marc Eliany for editing this report, and Irv Rootman, Reg Warren, Norman Giesbrecht, Pierre Lamarche, Tom Stephens and Jim Anderson for their extensive review of preliminary drafts prepared by Evalusearch (based on Alcohol in Canada, 1984).

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* Figures have not been standardized for age or sex.

HIGHLIGHTS: ALCOHOL IN CANADA

Sales and Consumption

- In fiscal year 1985-86, provincial and federal government revenues from alcoholic beverages were $3.78 billion. Costs related to alcohol abuse during this same period have been estimated at $5.25 billion.

- In 1986, Canadians age 15 and older purchased, on average, 10.2 litres of absolute alcohol per person. Beer purchases accounted for about one-half the total absolute alcohol sales. Of 32 industrialized countries, Canada ranked 21st in sales of absolute alcohol per adult.

- Despite increases in the availability of alcohol since 1980, there have been modest declines in per capita consumption. Between 1982 and 1986, there was an approximate eight percent decline in sales. Comparisons between the Canada Health Survey (1978-79) and the General Social Survey (1985) show a shift toward more moderate drinking practices.

- Alcohol sales vary by province, consumption being higher in the north and west of Canada. Between 1982 and 1986, there was a reduction in the absolute consumption of alcohol in all provinces and territories. The greatest proportional decrease was in Newfoundland.

- Approximately 86% of men and 77% of women reported drinking in the year prior to the Health Promotion Survey. Men who drink consume more drinks weekly than do women of the same age group.

- Generally, younger Canadian adults (age 20 to 44) are most likely to be current drinkers, but weekly consumption is fairly consistent across age groups, except for the youngest and oldest age groups.

- The higher one's education or income, the more likely one is to report drinking within the last month. Those not in the labour force are the least likely to be current drinkers. Among working Canadians, approximately three out of four blue collar workers and managerial/professional workers reported drinking.

- Older youth are more likely to use alcohol, and young men were heavier consumers of alcohol than were young women (1.2 drinks per day vs. 0.6 drinks per day).

- Among students, there have been reductions in the proportion of drinkers, especially heavy and frequent drinkers. This is a more pronounced decrease than for adults.

- One in five students reported becoming drunk in the previous month. The heaviest consumption of alcohol occurred at parties: 39% reported consuming five or more drinks while only 8% reported not drinking at parties.

- Despite some evidence of drinking problems, few young people seek help. Far more young people wish they could drink less than actually seek assistance.

Attitudes and Beliefs

- In 1985, seven out of ten Canadian adults expressed the opinion that government had a very important role to play in dealing with alcohol problems. This proportion was less than that concerned about drug use (74%) but far greater than those supporting government involvement in smoking (54%).

- Non-drinkers were much more likely than drinkers to believe in the negative effects of alcohol use, e.g. driving impairment. Heavy drinkers tended to stress effects such as making you more aggressive, more outgoing, daring, sexy, etc.
- Drinking drivers had much more tolerant attitudes toward all aspects of drinking behaviour than non-drinking drivers.
- Over 25% of Canadian adults believed they could drive safely after four or more drinks in a three-hour period.

Outcomes of Alcohol Use and Abuse

- Between 50% and 60% of native illnesses and deaths are alcohol-related. Alcohol abuse levels were between 35% and 40% for the adult native population and between 10% and 15% for adolescents.
- Fifty-three percent of youth in grades 7 to 13 reported getting high on alcohol at least once in the previous year.
- High blood-alcohol levels are highly over-represented among drivers involved in accidents and among apprehended drinking drivers.
- Drivers age 16 to 19 comprise 15% of those at risk, 18% of those injured and 23% of alcohol-related road fatalities. Women are an increasing proportion of those at risk and those fatally injured in motor vehicle accidents.
- In 1985, an estimated 10.3 million trips were made by drinking drivers in the 30 days preceding the Health Promotion Survey. Over half of these trips were accounted for by only three percent of adult Canadians.
- There has been a recent reduction in the number of hospital separations of patients with primary diagnoses of alcohol dependence or alcoholic psychosis.

CHAPTER ONE: INTRODUCTION

Unlike the licit and illicit drugs discussed in the companion report to the present volume, the consumption of alcohol for non-therapeutic or recreational use is accepted by an overwhelming majority of Canadians. Despite evidence of growing intolerance of excessive use, and modest declines in per capita consumption since 1980, the availability of alcohol appears to have increased, as has the social acceptability of drinking.

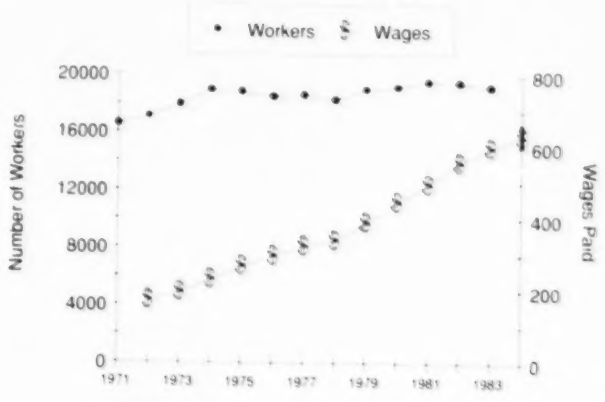
The production of beverage alcohol is an important industry in Canada.[2] As can be seen in Figure 1, the industry is a major employer, employing close to 20,000 Canadians as of 1984 and paying out approximately $625 million in wages and salaries. The industry is also a major consumer of goods and services which range from agricultural products to advertising, and is an important element of other industries, such as tourism and hospitality.

In terms of both the number of jobs, and salaries and wages paid, the brewing sector is the largest in the Canadian beverage alcohol industry (see Figure 2).

Governments in Canada derive substantial revenues from the sale of alcoholic beverages. In fiscal year 1985-86, provincial and federal government revenues specifically related to alcoholic beverages amounted to $3,787,000,000. This was an increase of 4.2% ($154 million) over the previous fiscal year. As can be seen in Figure 3, government revenues from beverage alcohol rose steadily over the period 1977 to 1986.[2]

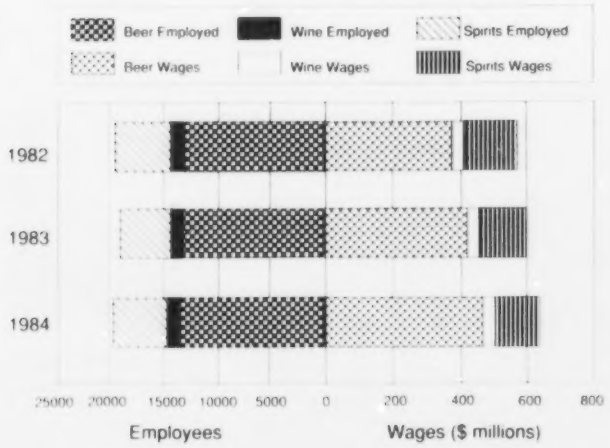
Against the economic benefits of alcohol production must be weighed the social, health and economic burdens of excessive alcohol consumption, including: illness, injury and loss of life, loss of worker productivity, property damage, crimes and violence, social discord and family tension, and a host of other problems. The costs of these outcomes were estimated recently at $5.25 billion for Canada. They are described in greater detail in Chapter 7.

Figure 1.
Number of Workers Employed and Wages Paid in the Beverage Alcohol Industry, Canada, 1971 to 1984.[2]



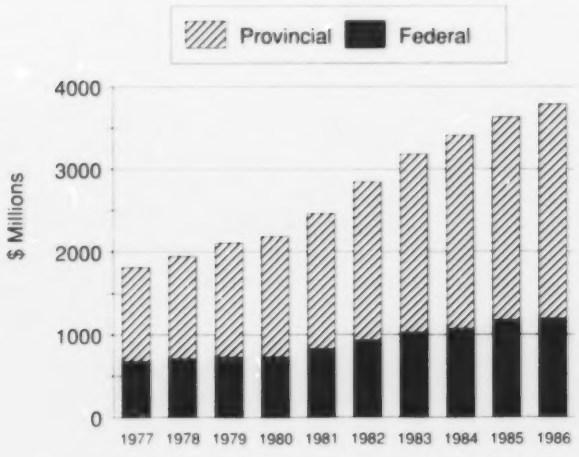
Source: Statistics Canada

Figure 2.
Number of Workers Employed and Wages Paid in the Beverage Alcohol Industry, by Sector, Canada, 1982, 1983 and 1984.[2]



Source: Statistics Canada

Figure 3.
Government Revenues Derived from Alcoholic Beverages, 1977 to 1986.[2] (Not adjusted for Inflation)



Source: Statistics Canada

CHAPTER TWO: ALCOHOL SALES

Sales of alcoholic beverages provide a useful means of comparing consumption in different time periods and jurisdictions. Although sales data do not provide an exact measure of consumption, since they omit home production and personal imports, they are reliable indicators because of their objective nature and consistency.

2.1 Recent Sales Trends

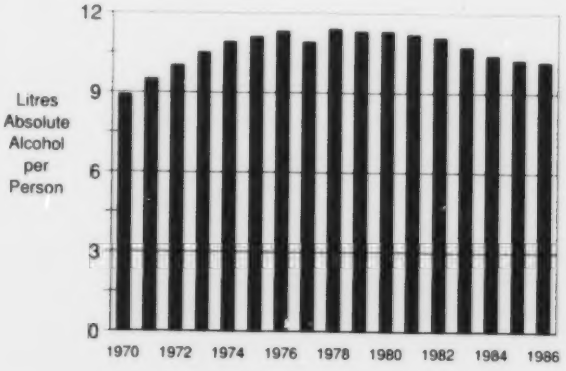
Sales statistics for the period 1970 to 1987 reveal a steady increase in the amount of alcohol purchased by Canadians, peaking at approximately 11.3 litres of absolute (pure) alcohol per person age 15 and over in 1980 (see Figure 4). Since 1980, sales of beverage alcohol indicate a steady reduction in the overall consumption of alcohol by Canadians.[2]

Per capita sales, also calculated for the population age 15 and older, rose by approximately 25% between 1970 and 1975, and remained relatively stable between 1975 and 1980, rising only one percent. Between 1982 and 1986 there was an approximate eight percent decline in sales. In 1986, Canadians age 15 and older purchased, on average, 10.2 litres of absolute alcohol per person.

The greatest quantity of absolute alcohol purchased by Canadians is in the form of beer. In 1986, beer purchases by those age 15 and older accounted for about one-half the total absolute alcohol sales, or approximately 5.2 litres of absolute alcohol per person.[3] Spirits constituted approximately one-third of absolute alcohol sold (3.2 litres/person), and wine approximately one-sixth (1.6 litres/person).

Canadian preferences for beverage alcohol have been changing, with wine experiencing the greatest percentage increase in total sales of alcoholic beverages. Changes in alcoholic beverage preferences during the period 1982 to 1986 have been a 4% reduction in beer sales, a 20% reduction in the sale of spirits and a 9% increase in wine sales.[2]

Figure 4.
Sales of Alcoholic Beverages in Litres Absolute Alcohol per Person Age 15 and Older, Canada, 1970 to 1986.[2]



Source: Statistics Canada

2.2 Provincial Comparisons

Alcohol sales vary by province (see Figure 5), with overall consumption being higher in the north and west of Canada. For example, New Brunswick, with an average consumption of 7.8 litres of absolute alcohol per adult, has the lowest level of consumption, less than half that of the Yukon with a mean per capita consumption of 18.3 litres, based on 1986 sales data.[2]

In the period between 1982 and 1986, there was a reduction in the absolute consumption of alcohol in all provinces and territories in Canada.[2] The greatest proportional decrease was in Newfoundland – a 16% drop over these four years (see Figure 6).

2.3 International Comparisons

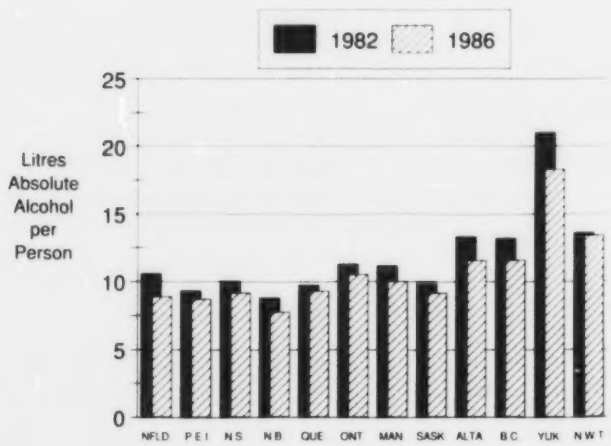
Of 32 industrialized countries, Canada ranked 21st in sales of absolute alcohol per adult in 1984 (see Table 1). Sales amounted to a total of 10.2 litres of absolute alcohol per adult. In terms of specific types of beverage alcohol, Canada ranked 11th for sales of spirits, 15th for beer, and 24th for wine.

Of 28 countries for which data are available for absolute alcohol sales for the period 1970 to 1984 (see Table 2), Canada ranked 18th during 1984 and has changed little in rank since 1970.[2,5] While rankings generally have not changed significantly during this period, some countries have seen marked changes in alcohol sales during this period. East Germany, for example, more than doubled its alcohol sales between 1970 and 1984. France, on the other hand, experienced a 27% reduction in sales in the same period.

Figure 5.
Sales of Alcoholic Beverages in Litres Absolute Alcohol per Person Age 15 and Older, by Province, 1986.[2]

Source: Statistics Canada

Figure 6.
Changes in Sales of Alcoholic Beverages, in Litres Absolute Alcohol per Person Age 15 and Older, by Province, 1982 and 1986.[2]



Source: Statistics Canada

Table 1.
Alcohol sales in various countries, per person, age 15 and over, 1984.

	Absolute alcohol				Volume in litres			
	TOTAL	rank	Spirits	rank	Wine	rank	Beer	rank
Luxembourg	23.9	1	7.2	2	77.2	4	148.9	9
France	18.2	2	2.8	15	105.1	3	52.8	26
Portugal	17.8	3	1.1	32	122.1	1	49.2	27
East Germany	16.8	4	6.0	4	12.6	23	184.8	2
Italy	15.1	5	1.6	29	118.6	2	25.6	30
Spain	15.0	6	3.9	7	62.2	6	81.5	17
Hungary	14.6	7	6.3	3	38.3	10	111.1	13
West Germany	14.3	8	2.8	16	30.9	11	173.6	4
Austria	14.3	9	1.9	25	47.2	7	139.5	11
Switzerland	13.9	10	2.6	19	68.3[a]	5	85.5	16
Czechoslovakia	13.5	11	4.3	6	18.6	19	185.1	1
Belguim	13.3	12	2.4	22	28.6	13	156.3	7
Denmark	12.9	13	1.9	26	23.4	15	166.5	5
Australia	12.5	14	1.6	28	28.4	14	153.3	8
U.S.S.R.	11.5	15	7.8	1	17.5	20	33.1	29
Bulgaria	11.2	16	3.9	8	29.0	12	77.2	18
Yugoslavia	11.2	17	3.1	12	39.8	8	66.4	20
Netherlands	11.0	18	3.0	14	19.4	17	106.3	14
New Zealand	11.0	19	2.5	21	19.1	18	158.7	6
Rumania	10.4	20	2.7	18	38.9	9	60.3	22
CANADA	**10.2**	**21**	**3.4**	**11**	**12.5**	**24**	**105.9**	**15**
United States	10.2	22	3.6	10	11.4	25	116.2	12
Ireland	9.7	23	2.2	23	4.8	31	174.4	3
United Kingdom	9.2	24	2.0	24	20.1[a]	16	139.5	10
Finland	8.2	25	3.6	9	11.1	26	74.6	19
Poland	8.2	26	5.5	5	10.9	27	35.0	28
Japan	7.8	27	2.7	17	17.0[b]	21	53.6	25
Sweden	6.4	28	2.6	20	14.4	22	55.8	24
Iceland	5.5	29	3.0	13	10.7	28	23.3	31
Norway	5.2	30	1.7	27	5.7	30	61.2	21
Mexico	4.2	31	1.2	31	0.4	32	59.5	23
Israel	2.9	32	1.3	30	6.0	29	16.5	32

[a] Includes cider.
[b] Includes sake.

Source: Brewers Association of Canada, International Survey Alcoholic Beverage Taxation and Control Policies, Sixth Edition

Table 2.
Absolute alcohol sales in various countries, in litres per capita, all age groups, 1970, 1975, 1980, 1984.

	1970	1975	1980	1984
1. France	19.6	18.6	14.8	14.2
2. East Germany	6.3	8.2	9.7	13.3
3. Portugal	9.9	13.3	11.0	12.9
4. West Germany	11.2	12.3	12.7	11.9
5. Italy	14.4	13.2	13.0	11.5
6. Hungary	10.1	12.3	11.5	11.4
7. Switzerland	10.5	10.8	10.5	11.1
8. Austria	11.9	11.7	11.0	11.0
9. Belgium	8.9	9.9	10.8	10.7
10. Denmark	6.3	8.7	9.2	10.4
11. Czechoslovakia	9.1	9.9	9.6	10.2
12. Australia	8.2	9.7	9.8	9.3
13. Bulgaria	7.2	7.6	7.5	8.7
14. Netherlands	5.7	8.9	8.8	8.6
15. Yugoslavia	7.6	7.7	7.4	8.4
16. U.S.S.R.	5.0	5.3	6.2	8.4
17. New Zealand	6.7	8.2	9.7	8.1
18. CANADA	**6.5**	**8.3**	**9.1**	**8.0**
19. United States	6.8	7.9	8.7	7.9
20. Rumania	6.3	7.4*	7.9	7.7
21. United Kingdom	5.2	6.8	7.1	7.3
22. Ireland	4.2	5.8	7.5	6.7
23. Finland	4.5	6.7	6.4	6.6
24. Poland	5.0	6.9	8.7	6.2
25. Japan	4.9	5.6	5.4	5.9
26. Sweden	5.6	6.3	5.7	5.2
27. Norway	3.6	4.4	4.6	4.0
28. Iceland	2.7	2.9	3.9	4.0

* Figure for 1976.

Sources: Addiction Research Foundation, Health and Welfare Canada, Brewers Association of Canada

CHAPTER THREE: ALCOHOL USE BY CANADIAN ADULTS

While sales data provide a useful and objective proxy measure of overall consumption, they cannot provide any indication of such dimensions as frequency of consumption or quantity consumed per occasion, nor do they reveal anything about the characteristics of consumers. For this type of information, population surveys are essential, even though the self-reports on which they are based typically under-estimate total consumption.

Several national surveys have explored the patterns of drinking among Canadian adults, including the frequency of consumption and the quantities consumed on drinking occasions. (For this purpose, "adults" are defined as age 15 years and older — the usual lower age limit for household surveys. The next section focuses on youth age 10 to 24.)

The Canada Health Survey, conducted in 1978-79 by Health and Welfare Canada and Statistics Canada, collected information from a sample of non-institutionalized Canadians age 15 and over in each of the 10 provinces.[6] Information on drinking practices was collected from self-administered questionnaires returned by more than 17,000 Canadians. According to the survey report, the presence of other members of the household may, however, have lead to some under-reporting of consumption, especially by young people and heavy drinkers.

The General Social Survey, conducted in September and October 1985 by Statistics Canada,[6] collected information on health and related factors from a sample similar to that surveyed in the Canada Health Survey. Information was collected by means of telephone interviews for respondents age 15 through 64 and by personal interviews for those 65 and older. Information in this survey is available for approximately 13,000 Canadians in the 10 provinces. The analysis of the General Social Survey used classifications of drinkers and consumption volumes comparable to the Canada Health Survey, allowing for an examination of self-reported drinking patterns over the period 1978 to 1985.

Canada's Health Promotion Survey, conducted in 1985 by Statistics Canada on behalf of Health and Welfare Canada, also provides data on the health-related behaviours and attitudes of Canadians age 15 and older.[8] The survey was conducted by means of random telephone interviews in all 10 provinces and the Yukon Territory. Information from this survey is available on over 11,000 Canadians.

3.1 Prevalence of Use

According to Canada's Health Promotion Survey, 81% of Canadians age 15 and older were alcohol users in 1985[8]: that is, they reported consuming alcohol at least once during the previous year. This is the same proportion as in the General Social Survey[7] (see Table 3). According to the Health Promotion Survey, a further 10% reported having consumed alcohol at some point in their lives, but not during the previous 12 months.

Among those who consumed alcohol within the last month, both the General Social Survey and the Health Promotion Survey report the majority having at least one drink a week. The most common category was one to six drinks per week or one to seven drinks a week, depending on the survey. (The difference in "current drinkers" reporting no alcohol consumption in the previous week in the two surveys is largely the result of the Health Promotion Survey's including in the category "current drinkers" those considered to be "occasional drinkers" in the General Social Survey.)

As can be seen in Table 3, most Canadians report being moderate consumers of alcohol. Approximately one-third of those who drank within the previous year had no alcohol within the previous week. An

additional third averaged one or fewer drinks a day in the previous week.

In interpreting self-reported alcohol consumption data, it is important to distinguish frequency of drinking from the quantity consumed at each drinking occasion since different groups appear to demonstrate different consumption patterns. Frequency is considered by some experts to be more sensitive to social and economic factors, while quantity consumed at each occasion may be more sensitive to age and sex.[9]

For older Canadians, for example, there is evidence that, while frequency of drinking does not change, quantity consumed per occasion declines with age.[8] There are also differences with regard to beverages. Frequency of spirits consumption, for example, increases with age while frequency of beer consumption declines. The following sections describe drinking patterns by some characteristics of the Canadian population.

3.2 Sex and Age of Drinkers

Canadian men are more likely to be current drinkers than are women. Approximately 86% of men and 77% of women reported drinking in the previous year in both the General Social Survey and the Health Promotion Survey (see Table 4).

The greater likelihood of men reporting drinking and reporting more frequent drinking is true of all age groups (see Table 5). In addition, men who drink consume more drinks weekly than do women of the same age group (see Figure 7). Men were more than three times as likely as women to report drinking eight or more drinks a week in the Health Promotion Survey and seven or more drinks a week in the General Social Survey.

Generally, younger Canadian adults (age 20 to 44) are most likely to be current drinkers, but weekly consumption is fairly consistent except for the youngest and the oldest age groups.

Table 3.
Types of drinkers and number of drinks consumed in the previous week by "current drinkers," age 15 and over, Canada, 1985.

	General Social Survey %	Health Promotion Survey %
Type of drinker		
"Occasional drinker"[a]	18	
"Current drinker"[b]	63	81
Number of drinks in previous week[c]		
0 drinks	15	31
1-6 drinks (GSS) 1-7 drinks (HPS)	30	34
7-13 drinks (GSS) 8-14 drinks (HPS)	11	8
14 drinks or more (GSS) 15 drinks or more (HPS)	8	8

a "Occasional drinker" reports drinking less frequently than once per month.

b The General Social Survey considers "current drinking" to be drinking at least once a month. The Health Promotion Survey considers "current drinking" to be any consumption in the previous year.

c Slightly different categories of use are reported. Those used in the General Social Survey are indicated as "GSS," those in the Health Promotion Survey as "HPS." In both cases, use is reported for current drinkers only.

Sources: General Social Survey, Health Promotion Survey

Table 4.
Types of drinkers, by sex, age 15 and over, Canada, 1985.

	General Social Survey		Health Promotion Survey	
	Men %	Women %	Men %	Women %
Never drank	8	17	5	10
Former drinker	7	6	9	11
Occasional drinker[a]	11	24	n/a	n/a
Current drinker[b]	74	53	86	77

a "Occasional drinker" reports drinking less frequently than once per month.

b The General Social Survey considers "current drinking" to be drinking at least once a month. The Health Promotion Survey considers "current drinking" to be any consumption in the previous year.

Sources: Health Promotion Survey, General Social Survey

3.3 Regional and Provincial Comparisons

The greatest proportions of current drinkers are found in Ontario and British Columbia, while Atlantic Canada has the lowest proportion (see Table 6). However, average weekly consumption by current drinkers varies little from province to province (Figure 8). Men average six to eight drinks per week across Canada, with the exception of Prince Edward Island (less than five) and British Columbia (more than eight). Most women admit to only two or three drinks weekly; in British Columbia and Yukon, the consumption level is closer to four.

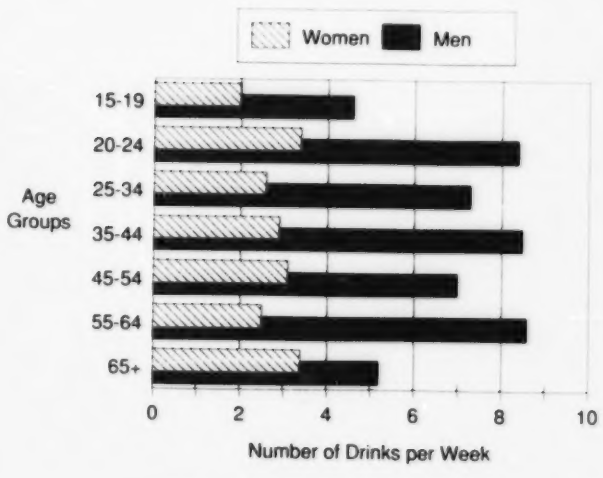
Table 5.
Current drinkers[a], by age, Canada, 1985.

Age groups	Men %	Women %
15 - 19	57	44
20 - 24	86	65
25 - 44	81	59
45 - 64	70	52
65 and over	56	31
All ages	74	53

a Those reporting drinking at least monthly.

Source: General Social Survey

Figure 7.
Average Number of Drinks per Week Consumed by Current Drinkers, Canada, 1985.



Source: Canada's Health Promotion Survey

3.4 Social Characteristics of Drinkers

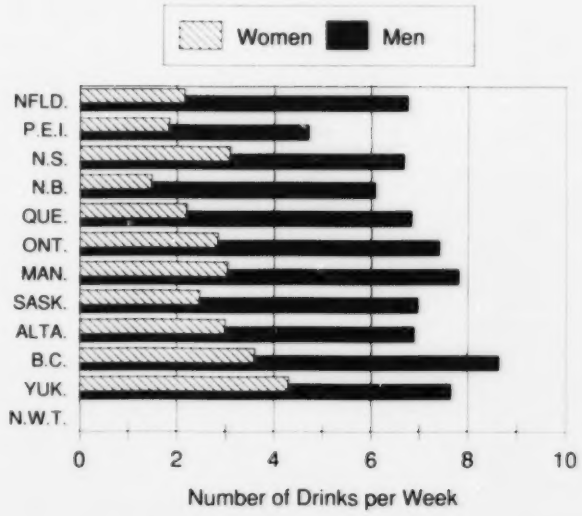
The higher one's education, the more likely one is to report drinking within the last month. According to the General Social Survey, one out of every two Canadians with less than a completed high school diploma is a current drinker, in comparison to three out of four who have completed high school and who have some post-secondary education. As can be seen in Table 7, most of this difference is in the seven or fewer drinks-a-week category.

Those not in the labour force are the least likely to be current drinkers.[8] Only one in three Canadians not in the labour force in 1985 reported consuming any alcohol in the previous week. This compares with three out of every five working Canadians who reported having consumed at least one drink in the previous week (see Table 8). Since older Canadians are less likely to be current drinkers and almost 40% of those not in the labour force are retired, the relatively low proportion of current drinkers among this group is largely related to age.

Further, of current drinkers who consumed 15 to 21 drinks, it is interesting to note that the unemployed reported the highest rate of consumption in the week preceding the survey (1985).

Among working Canadians, approximately three out of four blue collar workers and managerial/ professional workers reported consuming at least one drink in the previous month. In comparison, only two out of three "other white collar" workers reported consuming at least one drink in the previous month (see Table 9). This may be due to the larger proportion of women in this job category. Similarly, levels of consumption were reported higher among blue collar workers, a majority of whom are men.

Figure 8.
Average Number of Drinks Consumed Weekly by Current Drinkers, Age 15 and Older, by Province, 1985.[7]



Source: Canada's Health Promotion Survey

Table 6.
Types of drinkers, by region, age 15 and over, Canada, 1985.

	Canada %	Atlantic %	Quebec %	Ontario %	Prairies %	B.C. %
Never drank	13	16	16	11	10	12
Former drinker	6	10	7	5	8	5
Occasional drinker[a]	18	20	16	18	19	15
Current drinker[b]	63	53	61	66	63	67

a "Occasional drinker" reports drinking less frequently than once per month.
b The General Social Survey considers "current drinking" to be drinking at least once a month.

Source: General Social Survey

Table 7.
Weekly volume of alcohol consumed, by education level, age 15 and over, Canada, 1985.

	Presently in school %	Secondary or less %	Secondary graduate %	Some post-secondary %	Post-secondary degree %
Occasional and non-drinkers	57	50	31	26	26
Less than 7 drinks	29	35	48	51	53
7 drinks or more	15	14	21	22	21

Source: General Social Survey

There is a relationship between income and pattern of drinking. More affluent Canadians are more likely to be current drinkers, while less affluent Canadians are more likely to be non-drinkers (see Table 10). In addition, the levels of consumption among current drinkers are highest among those in the higher-income groups.

3.5 Changes between 1978-79 and 1985

The General Social Survey was a "snap shot view" of Canadian drinking practices. By comparing these 1985 data with those in the Canada Health Survey of 1978-79, a picture of recent and changing drinking patterns can be seen.

Comparisons between the Canada Health Survey and the General Social Survey show a shift toward more moderate drinking practices. Table 11 shows a slight reduction in the number of current drinkers and, within this group, a slight tendency toward fewer drinks per week. This reduction in consumption among drinkers has occurred in all age groups (data not shown) and for both men and women. While the magnitude of the reduction is small, and though it may be due in part to increasing reluctance over time to report heavier consumption levels, the decline is consistent with a decline of 12% in beverage alcohol sales during the period 1980 to 1984 (see Table 2).

Table 8.
Types of drinkers and number of drinks in previous week, by labour force activity, age 15 and over, Canada, 1985.

Type of Drinker	Working %	Unemployed %	Student %	Retired/ Keeping house %
Never drank	4	6	8	14
Former drinker	7	11	8	16
Current drinker	**88**	**83**	**84**	**70**
0 drinks	29	25	38	34
1-7 drinks	37	33	33	27
8-14 drinks	11	11	5	3
15-21 drinks	5	9	4	4
More than 21 drinks	5	5	4	1

Source: Health Promotion Survey

Table 9.
Types of drinkers and number of drinks in previous week, by occupation, age 15 and over, Canada, 1985.

Type of Drinker	Managerial/ professional %	Other white collar %	Blue collar %
Never drank	3	6	4
Former drinker	6	7	9
Current drinker	**90**	**87**	**87**
0 drinks	29	31	27
1-7 drinks	41	38	33
8-14 drinks	9	10	13
15-21 drinks	5	3	5
More than 21 drinks	5	3	9

Source: Health Promotion Survey

Canada Health Survey results had suggested that there was convergence of drinking patterns among men and women, i.e. more similarity in male-female drinking practices among younger compared to older Canadian adults. However, General Social Survey results do not demonstrate such convergence.[7] Rather, there was a widening gender differential between 1978-79 and 1985 for all ages except for the 45 to 64 age group.

Several researchers have argued that government policies with regard to the sale of alcoholic beverages have the capacity to influence overall levels of consumption. The evidence, however, is not clear. Some studies seem to have indicated a relationship between the availability of beverage alcohol and overall alcohol consumption levels.[10,11] These studies, however, were often conducted during periods of relatively constant increases in consumption. Many researchers did not have data available to them during periods of declining per capita consumption.

As has been noted, Canada experienced a long and consistent period of increasing alcohol consumption to the mid-1970s. From 1950 to 1975, the consumption of alcohol in Canada increased from 5.9 litres of absolute alcohol per person age 15 and older to 11.4 litres, an increase of 93%. After a period of stability, per capita alcohol consumption began to decline.

Table 10.
Types of drinkers and number of drinks in previous week, by household income level, age 15 and over, Canada, 1985.

	Household income group				
Type of Drinker	Lowest %	Low-middle %	Middle %	Middle-high %	Highest %
Never drank	9	8	3	3	3
Former drinker	18	11	7	5	8
Current drinker	**72**	**80**	**89**	**92**	**90**
0 drinks	33	32	32	34	27
1-7 drinks	27	30	36	37	39
8-14 drinks	7	10	9	8	11
15-21 drinks	3	5	7	7	5
More than 21 drinks	2	2	5	7	5

Source: Health Promotion Survey

Table 11.
Changes in types of drinkers and weekly volume of alcohol consumed, age 15 and over, Canada, 1978-79 and 1985.

	Men		Women	
	1978-79 %	1985 %	1978-79 %	1985 %
Never drank	7	8	16	17
Former drinker	4	7	3	6
Occasional drinker	**10**	**11**	**20**	**24**
<1 drink (CHS) 0 drinks (GSS)	8	14	11	16
1-6 drinks	29	32	31	28
7-13 drinks	20	15	11	6
14 drinks and over	22	13	6	3

Sources: Canada Health Survey (adjusted for unknowns), General Social Survey

Reasons for the increases and more recent decreases are complex. Socio-economic factors which promoted alcohol consumption prior to 1975 do not appear to be the same as those factors which have contributed to the stabilization or reduction in overall consumption since 1975. According to Reginald Smart of the Addiction Research Foundation:[12]

> Because the stabilization period (in Ontario) involved increases in alcohol availability, decreases in the cost of alcohol as well as economic, demographic and dietary changes, a complex explanation of the changes is required. It is interesting to note that alcohol consumption stabilized although alcohol outlets and advertising budgets increased, while real costs of alcohol actually decreased.

Smart speculates that a general shift toward more healthy lifestyles may have contributed to the reduction in drinking levels. As he points out, for example, there have been concomitant reductions in smoking, increases in sports activities and exercise. A general increased emphasis on health and health promotion may have contributed to the reduction in alcohol consumption.

Any attempt to explain decreased consumption must also take account of the aging of the population. The exact nature of any such generational effect must remain speculative in the absence of data on the natural history of drinking. However, cross-sectional data on drinking patterns suggest that this is a plausible explanation, not only for the recent decreases in consumption, but also for the increases noted up to 1980.

3.6 Adult Attitudes toward Drinking

While the emphasis in this report, and in the vast majority of population surveys conducted until 1985, has been on describing drinking behaviour, the Health Promotion Survey[8] broke new ground by collecting data on attitudes and, to a lesser extent, knowledge.

Seven out of 10 Canadian adults expressed the opinion in 1985 that a government role in dealing with alcohol problems was very important. This proportion was less than that concerned about drug use (74%) but far greater than those supporting government involvement in smoking (54%).[8]

Other opinions and attitudes suggest a certain level of healthy skepticism about drinking and its effects. For example, two out of three adults disagreed that "most drinkers do not suffer health problems as a result of their drinking," and one-half disagreed that "moderate drinking can be good for your health." Almost everyone (95%) agreed that they would rather pay for a taxi than see a friend drive after drinking.

Although there is a high degree of social desirability in these responses, they are encouraging nevertheless. Further analysis, to examine differences in attitudes between drinkers and non-drinkers, for example, might provide useful guidance for the development of public education programs.

CHAPTER FOUR: ALCOHOL USE BY CANADIAN YOUTH

Some data for young Canadians were presented in the previous section, which focused on multi-purpose household surveys of the general population. This chapter draws data from surveys directed specifically at youth (usually 12 to 29 years) on the topic of alcohol use. Because of the sensitive nature of the topic, these surveys were designed to encourage candid reporting. Thus, the estimated prevalence levels reported here are generally higher than in the previous section. This does not guarantee that such data are more accurate. It is conceivable, for example, that surveys conducted in schools without appropriate precautions may lead to over-reporting of consumption and exaggeration of alcohol-related problems.

4.1 Prevalence of Use

A nationwide opinion poll of more than 2,000 Canadian young people was conducted in 1986 by the Gallup Poll organization for the Health Promotion Directorate of Health and Welfare Canada. The results describe alcohol use among Canadians age 12 to 29 years, excluding those residing in Labrador, Yukon and the Northwest Territories.[13]

Use of alcohol by young people is positively related to age, as older youth are more likely to be users (see Table 12). This is true of both regular and sporadic use. As with alcohol use by those age 15 and older, use by young men is greater than by young women (see Table 12).

Young people who had had at least one drink in the previous month (68%) were asked about their drinking behaviour in the previous week. On average, these young Canadians consumed almost one drink a day. Young men were heavier consumers of alcohol than were young women (1.2 drinks per day vs. 0.6 drinks per day) and consumption level was related positively to age (data not shown).

Table 12.
Use of alcohol, by age and sex, Canada, 1986.

Age Group	At least once in past year %	At least once in past month %	Use weekly or more %
12 - 14	45	18	4
15 - 17	82	56	22
18 - 19	92	77	43
20 - 24	94	82	48
25 - 29	94	83	53
Sex, age 12-29:			
male	85	70	47
female	84	66	29

Source: Canadian Gallup Poll

This national poll also identified some regional differences in alcohol use among young people (see Table 13). As is the case with adults, young people in the Atlantic region are least likely to drink, especially within the month preceding the survey. Otherwise, regional differences are not large.

Provincially sponsored surveys of drinking by young people have often found similar patterns of consumption and are useful because they sometimes provide greater detail than the national Gallup poll. For example, an Ontario survey of students conducted in 1987[14] and a New Brunswick school survey in 1986[15] provide similar evidence of alcohol use among a student population.

In New Brunswick, 70% of students reportedly consumed some alcohol in the previous year, compared to a rate of 68% in Ontario and 68% in Saskatchewan.[16] In all three provinces, the likelihood of consumption was related to grade or age; those in higher grades were more likely to have used alcohol

Table 13.
Use of alcohol, by region, age 12 to 29, Canada, 1986.

	At least once in past year %	At least once in past month %	Use weekly or more %
CANADA	**85**	**68**	**38**
Atlantic	80	57	31
Quebec	87	74	41
Ontario	83	64	38
Prairies	86	69	37
British Columbia	87	72	41

Source: Canadian Gallup Poll

(see Table 14). The positive association of alcohol use and age has also been found in Alberta[16] and Winnipeg.[17]

Mirroring these similarities in consumption, abstinence is also quite consistent among youth in different provinces. The proportion of non-drinkers among Ontario and New Brunswick students reported in these studies was similar to rates among young people surveyed in a Saskatchewan telephone survey in 1986.[18] The rate of abstinence for Ontario students in grades 7 through 13 was 32%; for New Brunswick students in grades 7 through 12 was 38%; and for Saskatchewan youth age 12 through 18 was 34%.

Table 14.
Percentage of students using alcohol in previous year, New Brunswick, 1986; Ontario, 1987; Saskatchewan, 1986.

	New Brunswick %	Ontario %	Saskatchewan %
Grade 7	42	43	27 (age 12)
Grade 8	59	—	37 (age 13)
Grade 9	73	65	61 (age 14)
Grade 10	77	—	79 (age 15)
Grade 11	82	85	83 (age 16)
Grade 12	88	—	90 (age 17)
Grade 13	—	89	93 (age 18)
TOTAL	70	68	67

Sources: Addiction Research Foundation; Alcoholism and Drug Dependency Commission of New Brunswick; Saskatchewan Alcohol and Drug Abuse Commission

The frequency of consumption among Ontario and New Brunswick students was also similar. In both provinces, the category "only on special occasions" was the most common pattern (see Table 15). Drinking at least weekly was reported by 12% of Ontario students and 11% of the New Brunswick students. In the Saskatchewan youth survey, 25% reported drinking at least weekly.

4.2 Problem Drinking

In both Ontario and New Brunswick, approximately half the students reported having used alcohol in the past month, and a large majority of students in these provinces and in Saskatchewan had drunk within the past year. This indicates that alcohol use is the norm for young Canadians, but they do not by themselves describe problem drinking. However, young people do acknowledge that drinking can lead to problems.

Table 15. Frequency of alcohol use during the previous year, grades 7 to 13, New Brunswick, 1986 and Ontario, 1987.

	New Brunswick %	Ontario %
None	38	32
Only on special occasions	20	29
Once a month or less	17	15
2 or 3 times a month	13	12
About once a week	6	6
2 or 3 times a week	4	4
4 or 5 times a week	1	1
Almost every day	< 1	1

Sources: Addiction Research Foundation; Alcoholism and Drug Dependency Commission of New Brunswick

For example, one in five New Brunswick students and one in six Ontario students reported becoming drunk in the previous month. In both provinces, approximately one in five students admitted to having consumed five or more drinks on a single occasion in the previous month (22% in New Brunswick, 21% in Ontario). In Saskatchewan, a survey with somewhat different questions revealed that 12% of young people age 12 through 18 reported getting drunk at least monthly.[18]

Certain situations are apparently more likely to result in drinking and heavy drinking by Canadian young people. In the 1986 national poll of Canadians age 12 through 29,[13] the most likely situation in which young people reported drinking was at parties. The heaviest consumption of alcohol for this national sample also occurred at parties: 39% reported consuming five or more drinks in this situation while only 8% reported not drinking at parties. Next highest consumption was when at a bar with friends (17% having five or more drinks). For school-age youth, drinking at parties was also the most common situation in which drinking occurred.

In a Nova Scotia survey,[19] those who responded affirmatively to three or more items on the problem scale were considered potential problem drinkers. By grade 12, about 36% of all students were classified as having problems with alcohol. An examination of stress indicators for these students showed that those who scored high on the problem-drinking scales had higher mean stress scores.

Despite some evidence of drinking problems, few young people seek help for a self-defined problem. Survey data show that far more young people wish they could drink less than actually seek assistance (see Table 16). Student-reported concern by parents, warnings by police and concern by the students themselves were more common than were help-seeking.

Similarly, Saskatchewan survey data on youth show that adolescents did not frequently seek help from professionals for problems associated with alcohol use. They were more likely, however, to seek the help of a friend (35%) or of a family member (28%).[16]

It is difficult to know from these sources whether excesses in experimental drinking are at the root of most police and parental concern, or whether chronic abuse is occurring. If much of the abuse is from experimentation, help may be ignored because the problem is regarded as temporary and controllable. If the abuse is in fact chronic, denial may play a role in not seeking help.

4.3 Trends in Use

Trend data on youthful alcohol consumption are scarce, but among Ontario students at least, there have been reductions in the proportion of drinkers, especially heavy drinkers and frequent drinkers. This is a more pronounced decrease than that reported earlier for adults (see Table 11).

The Addiction Research Foundation has collected survey data on Ontario students since 1977. Although alcohol use in 1985 and 1987 was approximately identical,[14] it is significantly lower than in previous survey years (see Table 17).

Writing about the decline in adolescent alcohol use and abuse in the years 1977 to 1983, Smart has noted that "frequent drinking (two or three times a month) involved a significantly smaller proportion of students in 1983. The proportion of students reporting daily or heavy drinking (four or more times

Table 16.
Percentage of students reporting events related to alcohol problems, New Brunswick, 1986 and Ontario, 1987.

	New Brunswick %	Ontario %
Seen a doctor	1.4	1.1
Seen a school counsellor/nurse	1.5	1.2
Talked to fellow student	5.6	n/a
Parents concerned	3.8	2.7
Warned by police	6.9	5.4
Wished could drink less	11.5	5.8

Sources: Addiction Research Foundation; Alcoholism and Drug Dependency Commission of New Brunswick

a week) decreased greatly."[20] However, there were no differences in the proportion of students reporting getting drunk or consuming five or more drinks on a single occasion in the month prior to the survey.

In the 1987 Ontario student survey, although the overall rate of alcohol use was down substantially from 1977, the frequency of becoming drunk increased while there were few changes in the rates of reported alcohol-related problems. Concludes Smart, "There may be a larger group who exhibit a problematic pattern of consumption."[14]

In a 1985 survey of Alberta youth (12 to 17 years old), prevalence of alcohol use was based on the percentage of youth who had consumed more than three drinks in their lives with at least one drink consumed in the last six months. By this definition, 47% of Alberta youth reported alcohol use, a decline from 55% in 1981.

Similar trends have been reported in surveys of Halifax students between 1970 and 1986.[21] Between 1983 and 1986, a significant decrease in the number of adolescents who reported using alcohol in the past six months was evidenced for both males and females. Although the percentage of drinkers declined from 1983, there was no corresponding decline in the proportion of frequent drinkers. There was also no significant change in the percentage of students who engaged in heavy alcohol use, with about 24% of boys and 14% of girls reporting heavy drinking in 1986.

Although the prevalence of drinking showed a decline, the number of those who engage in potentially hazardous alcohol consumption patterns did not change.

4.4 Youthful Attitudes toward Alcohol

National Gallup poll data on young adults in the 12 to 29 age group indicate that there is a widespread belief that using alcohol impairs one's ability to drive (89%).[13] Other common beliefs surrounding alcohol use included: 'makes you act silly'; 'makes it harder to concentrate'; 'causes headaches and liver disease'; 'makes you more aggressive'; and 'makes you feel sick.'

Comparisons between young drinkers and non-drinkers in their beliefs on the effects of alcohol revealed some interesting differences. Non-drinkers are much more likely than drinkers to believe in the negative effects of alcohol use, e.g. driving impairment, physical ill-effects, addictiveness. Heavy drinkers tended to stress perceived behavioural effects of alcohol use, such as making you more aggressive, more outgoing, more daring, more sexy, etc.

A survey of Alberta adolescents indicated a general tolerance for moderate drinking, but little belief in the alleged social benefits of drinking.[16] A minority felt that drinking made you more mature or improved your ability to have a good time. At the same time, 30% of all respondents felt it was acceptable to drink whenever they wanted to have a good time with their friends. Of those who drank, approximately one-half were unaware of negative effects of their drinking.

A national survey of attitudes and behaviours of 9-, 12-, and 15-year-olds examined differences between users and non-users of alcohol.[22] Students who used alcohol had more positive attitudes toward its use, such as attitudes toward future use,

Table 17.
Students reporting alcohol use at least once in the previous year, Ontario, 1977 to 1987.

	1977 %	1979 %	1981 %	1983 %	1985 %	1987 %
Boys	78	77	75	72	70	69
Girls	74	75	76	71	68	67

Source: Addiction Research Foundation

association with users and being protective of users. However, there were no significant differences found between users and non-users on mental health variables, including peer pressure and self-esteem measures.

CHAPTER FIVE: ALCOHOL USE BY CANADA'S NATIVE PEOPLES

Alcohol use by Canada's native peoples is considered separately in this report for three reasons: (a) native Canadians are one of the "target groups" of federal health promotion efforts, (b) the prevalence of use and abuse is substantially higher than among the Canadian population as a whole, and (c) the sources of data are often different from those used to describe the rest of the population. Separate treatment in this report, however, does not imply that there is any racial or genetic basis to alcohol use and abuse.

5.1 Prevalence of Use

It has been estimated by health care providers working with native peoples that between 50% and 60% of native illnesses and deaths are alcohol-related.[25] For example, a Saskatchewan study found that between 1970 and 1975, hospital admissions for alcoholic psychosis and alcoholism for reserve natives in the 25 to 55 age group were five times the national rate. The rate for on-reserve natives was two to three times higher than for off-reserve natives.[23] Due to lack of trend data, however, it is impossible to say how the situation might have changed in the past decade.

A 1984 report by the Federation of Saskatchewan Indian Nations on alcohol and drug abuse among treaty Indians presented survey results from four sources. Alcohol use among both adults and adolescents was widespread, with 84% of adults reporting use in the past year and 74% of adolescents reporting use. While these levels are little different from those reported earlier for the general Canadian population (see Tables 5 and 12), it was estimated that alcohol abuse levels were between 35% and 40% for the adult population and between 10% and 15% for adolescents. The prevalent drinking patterns for adults were periodic, high-volume drinking (binge drinking) and problem drinking (trouble with the law, fighting, family problems while drinking).[24]

An Ontario needs assessment survey of native children and native youth also indicated a high prevalence of alcohol use. Ten percent of children in grades 3 to 8 reported drinking enough to get high at least once in the past year, while 53% of youth in grades 7 to 13 reported getting high on alcohol at least once in the past year.[25] For the latter group, this is about double the rate for Ontario and New Brunswick youths reported earlier.

5.2 Factors Contributing to Alcohol Abuse

Given the widespread use and abuse of alcohol among native populations, an examination of the socio-economic factors affecting native life may be appropriate.

Typically, social and economic conditions have been found to be poor. For example, a needs assessment of Saskatchewan treaty Indians reported that 80% of the adult population had no more than grade 10 education. Unemployment rates were approximately 70%, and those who were employed were in low-income occupations, and many were under-employed, working part-time or on a temporary basis. Average family income was about one-half that of the general population with a substantial portion of income from social assistance.[24]

The number of single parents is very high, estimated for the off-reserve population at 48% and for reserve Indians at about 20% to 25%. Incarceration rates for Indians are exceedingly high, with one in eight men and one in fifty women likely to be incarcerated in a given year. The likelihood of Indian men and women being incarcerated in a given

year is 25 times greater for men and 88 times greater for women as compared to non-Indians.[24]

A comparison of native to non-native communities in Ontario found that native families are more often larger and more often headed by a single parent than non-native families. Native people were 6.6 times more likely to live in crowded housing and 2.4 times more likely to be unemployed. Twenty-nine percent of natives had grade 8 or less education compared to 17% for the non-native population. Forty-three percent of native adults reported earning less than $10,000 per year in 1986.[25]

Although conditions are deplorable for many native Canadians, this does not provide an obvious and immediate explanation of the high rates of alcohol use and abuse. Among non-native Canadians, as described earlier, alcohol use is positively correlated with income, education and occupational status. These relationships evidently appear to be reversed among the native population.

5.3 Problems Arising from Abuse

Alcohol and drug abuse represents a serious social and health problem for native communities. A significant amount of ill-health and disease can be attributed to alcohol abuse. Saskatchewan data[24] show that native peoples experience higher mortality and morbidity rates than non-natives. The standardized death rate and the infant mortality rate are both double that of non-native populations. Deaths by injury or violence account for one-half the deaths among Treaty Indians.

National statistics[23] indicate that native peoples are more likely than the general population to be admitted to hospitals with an alcohol abuse diagnosis. There is a greater degree of personal and social problems as a result of alcohol abuse, and a greater proportion of children are in care as a result of alcohol abuse in the home than in the general population.

CHAPTER SIX: ACCIDENTS AND OTHER HEALTH PROBLEMS

6.1 Traffic Accidents

Almost all nations have legislation forbidding impaired driving, although the blood-alcohol concentration at which one is considered to be impaired varies. In Canada, the Criminal Code makes it an offence to operate a motor vehicle if the concentration of alcohol in the driver's body is in excess of .08 grams of alcohol per 100 millilitres (.08 g/100mL) of blood. Japan and the U.S.S.R., in contrast, forbid drivers to have any measurable amounts of alcohol in their bodies, while jurisdictions in the United States proscribe driving with blood alcohol levels of from .08 to as high as .15 g/100 mL.[2]

It is clear that ability to operate a motor vehicle is impaired at high blood-alcohol concentrations.[26] What is somewhat less clear is the exact extent to which impaired driving contributes to motor vehicle accidents, injuries and deaths.

High blood-alcohol levels are highly over-represented among drivers involved in accidents and among apprehended drinking drivers; that is, the more the drinking driver has had to drink, the more likely he/she is to be involved in an accident or to be stopped by the police.[27] While the age group 20 to 34 years is at greatest risk to drink and drive, this group is not at greatest risk with regard to motor vehicle fatalities.

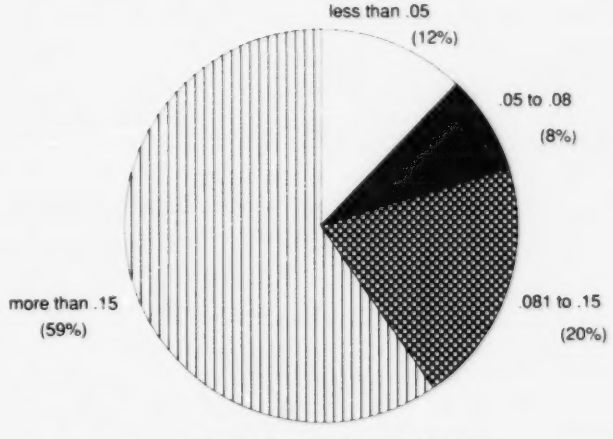
Drivers age 16 to 19 comprise 15% of those at risk, 18% of those injured and 23% of alcohol-related road fatalities. While these younger drivers drink less often than do older drivers and consume less alcohol when they do drink and drive, they are at much higher risk of accident involvement after drinking than are drivers of other age groups.[27]

According to research conducted by the Traffic Injury Research Foundation, men in Canada are at greater risk than women; that is, they are more likely to drink and drive and more likely to be involved in alcohol-related road accidents. However, women are an increasing proportion of those at risk and those fatally injured in motor vehicle accidents.[28]

Drinking has been implicated in a large proportion of fatal road accidents. Of 747 automobile drivers killed in road accidents in eight provinces during 1985, half had been drinking, and most of these fatally injured drinking drivers were legally impaired.[28] Those with higher blood-alcohol levels were over-represented, as can be seen in Figure 9. More than half of these fatally injured drivers had blood-alcohol levels of above .15, that is, double the legal limit, or higher.

The number of alcohol-related accidents does not provide a measure of alcohol-caused accidents. According to the Traffic Injury Research Foundation,[28] "estimates based on 'alcohol-involved' road accidents probably exaggerate the actual extent of the alcohol-crash problem." Nevertheless, the

Figure 9.
Blood-alcohol Levels of Fatally Injured Drivers, Canada, 1985.[27]



Greater than .081 is legally impaired

Source: Traffic Injury Research Foundation

Foundation estimates that alcohol may have played a contributory role in 1,800 fatal road accidents in 1982. Further, the Foundation estimates that a minimum of 863 fatal accidents, and 12,500 to 25,100 personal-injury accidents, would not have occurred in 1982 if no one drove after drinking.

But Canadian attitudes about impaired driving seem to be changing. In the words of John Bates, the president of the citizen action group People to Reduce Impaired Driving Everywhere: "Nobody thinks impaired driving is acceptable behaviour anymore, not even drunk drivers."[29] However, Health Promotion Survey data[30] show that drinking drivers (who were not necessarily impaired) had much more tolerant attitudes toward all aspects of drinking behaviour than non-drinking drivers.

Beliefs about ability to tolerate alcohol and still drive safely were assessed by the Health Promotion Survey.[8] Over 25% believed they could drive safely after four or more drinks in a three-hour period. This belief was most common among men and youth.

In a 1986 survey of Saskatchewan young people, 54% of those age 16 through 18 who were both drivers and alcohol consumers reported driving in the previous 12 months after having consumed alcohol. Approximately half these drinking drivers reported this behaviour more than twice in the previous year. For older young people, the rates of driving after drinking were even higher. More specifically, of those age 19 through 24 who were both drivers and alcohol consumers, 63% reported driving after drinking and a majority (60%) reported this behaviour more than twice in the previous year.[18]

In a national poll of young people age 12 through 29,[13] of those who reported being drivers and consumers of alcohol, 25% reported having driven within an hour of having two or more drinks; 15%, once or twice in the previous year; and 10%, three or more times.

In 1985, an estimated 10.3 million trips were made by drinking drivers in the 30 days preceding the Health Promotion Survey.[30] Over half of these trips were accounted for by only three percent of adult Canadians, suggesting that the problem of drinking and driving, while serious, is concentrated in a small segment of the population.

6.2 Morbidity

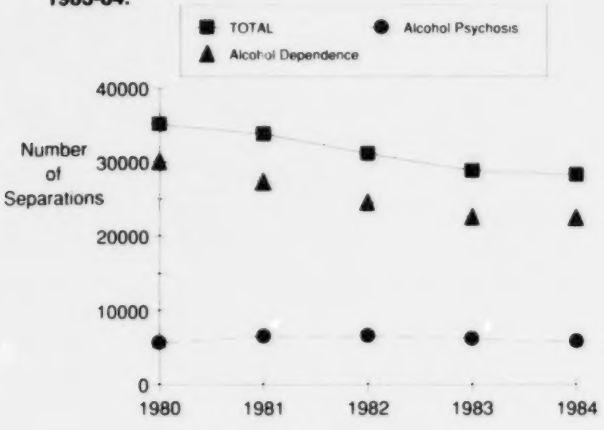
Alcohol, when taken in excess, has been implicated as a contributing factor to a wide variety of illnesses affecting all systems in the human body:[31]

- alcoholic liver disease - diseases of the liver include fatty infiltration of the liver, hepatitis and cirrhosis;
- pancreatitis - perhaps three out of four patients with pancreatitis are alcoholics;
- gastrointestinal system - illnesses ranging from gastric discomfort to aggravation of existing ulcers to cancer of esophagus, although this latter condition may be linked to the higher rates of smoking among chronic alcohol abusers;
- brain and nervous system - short-term memory deficit, Wernicke-Korsakoff syndrome which causes problems from confusion to severe memory loss, chronic brain syndrome;
- cardiovascular system - alcoholic cardiomyopathy or disease of the heart muscle which can cause congestive heart failure, also high blood pressure and coronary artery disease;
- hematological system - several types of anemia.

As can be seen in Figure 10, there has been a recent reduction in the number of hospital separations of patients with primary diagnoses of alcohol dependence or alcoholic psychosis.[32] Data on alcohol-related hospital care based on primary diagnoses, however, provide a limited picture of the extent of hospital treatment which results from abusive drinking. Patients with recognized alcohol problems may not be admitted with a primary diagnosis of alcohol dependence or alcoholic psychosis.

Hospital separations for alcohol-related primary diagnoses increase with age for the non-elderly (see Figure 11). As well, men are more likely to be admitted with alcohol-related diagnoses than are women (see Figure 12). This difference between men and women was true for all age groups.

Figure 10.
Alcohol-related Separations from Mental, Psychiatric, and General Hospitals, Canada, 1979-80 through 1983-84.[32]



Source: Statistics Canada

In a 1984 review of the evidence for health benefits of moderate drinking, Ashley notes[33] that apparently positive findings are often complicated by the presence of former drinkers in the non-drinker category. In one study that excluded former drinkers, the category of "never drinker" had the lowest rates of death from coronary heart disease. Ashley concluded that the evidence for protection against heart disease at lower consumption levels was inconsistent, but growing.

Although moderate alcohol consumption may provide some protection against heart disease, concern has been raised that drinking at lower levels may pose other risks to physical health. This may be especially true for women who appear at greater risk of developing liver disease and where alcohol has been implicated in problems related to pregnancy and birth.[33,34] The prospective study of nurses showed an increased risk of subarachnoid hemorrhage,[34] while a recent meta-analysis of 21 case-control and prospective studies has identified a positive association between alcohol consumption and breast cancer.[35]

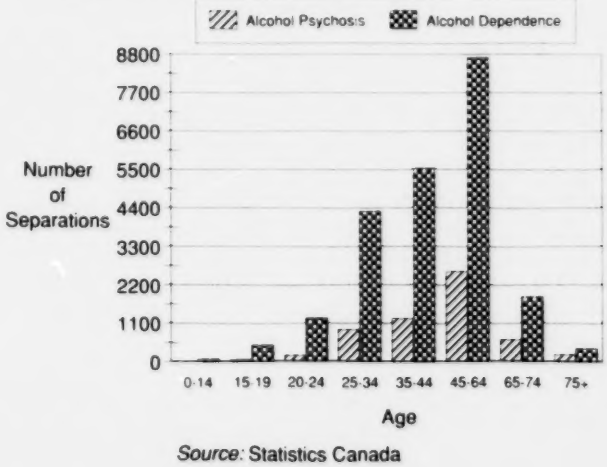
The observation that alcohol, especially at higher levels of consumption, can cause physical health problems has led researchers to question the consumption level above which drinking becomes unsafe. There is no single answer to the question "How much is too much?" Individual variation between drinkers and different levels of risk for different health problems preclude the possibility of arriving at a single answer. As a rule of thumb, however, some evidence suggests that drinkers are much more likely to experience problems when they consume four drinks or more on an average of three days or more per week.[35,36]

In attempting to assess risk, some researchers have added to the level and pattern of consumption a consideration of the type of beverage consumed. In one study of an alcoholic group treated in an in-patient program, for example, patients who were beer-only drinkers had lower problem levels. This group also consumed less alcohol daily, but consumed it over longer periods of time.[37]

A recent study of the general population was conducted based on results of the Canada Health Survey. This study examined self-reported morbidity (bed-days, activity loss, doctor visits) for consumers of beer, wine and spirits and those with no beverage preferences. Beer drinkers were found to have significantly less morbidity than other groups.[38] Similar findings were found in an international survey which examined data from nine industrialized countries, including Canada.[39]

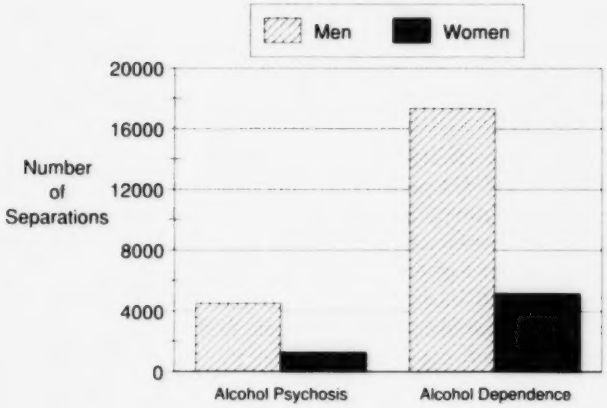
Writing on the issue of safe drinking levels, Barry Sisson and the late Ruth Segal wrote:

Figure 11.
Alcohol-related Separations from Mental, Psychiatric, and General Hospitals, by Age, Canada, 1983-84.[32]



Source: Statistics Canada

Figure 12.
Alcohol-related Separations from Mental, Psychiatric, and General Hospitals, by Sex, Canada, 1983-84.[32]



Source: Statistics Canada

The exact dosage level which can be said to constitute abuse is not certain, but it is clear that as the knowledge and understanding of the effects of alcohol on the body become more precise, the estimation of dangerous consumption levels becomes progressively lower. Some authorities would maintain that there is no absolutely safe drinking level... It is generally agreed that the extent of damage from alcohol consumption is directly related to the total lifetime consumption.[31]

6.3 Mortality

It is difficult to estimate accurately the number of deaths caused by alcohol. As noted above, while approximately half the drivers killed in motor vehicle accidents had some measurable quantity of alcohol in their bodies at the time of the crash, not all these motor vehicle fatalities can be directly attributed to alcohol consumption. Drinking, of course, may well have been a contributing factor in some of those accidents.

The Traffic Injury Research Foundation estimates that while alcohol may have been a contributing factor in 50% of Canada's fatal road accidents, "More sophisticated analyses have estimated the number of road accidents that would not have occurred had all drivers not consumed any alcohol. Based on one such analysis, expected reductions in road accidents were 23.7% of fatal road accidents."[41]

It is interesting to note here a recent trend indicating a decline in fatal alcohol-related accidents since 1985. More specifically, data maintained by the Traffic Injury Research Foundation of Canada on traffic fatalities reveals that between 1985 and 1987: "...the number of drivers with illegal BACs (blood-alcohol concentrations) fell below the number of non-drinker driver fatalities. The percentage of impaired-driver fatalities dropped substantially and ranged from 40% to 43%, 10% below the fifteen-year average".[42]

Many studies have pointed to elevated risk of mortality in heavy drinkers. One review of mortality studies[43] found consistently higher mortality rates among heavy drinkers. Increased risk of death has been shown for many illnesses including: certain cancers, tuberculosis, cardiovascular diseases, pneumonia, cirrhosis, suicides and accidents.

Alcohol has also been implicated in accidents other than road accidents. A study of 254 industrial accident fatalities in Alberta[42] showed that alcohol was present in 17% of the cases. In a majority of these cases (71%), however, alcohol levels were less than the legal definition of impairment.

In Canada, as in other industrialized nations, there are striking differences between mortality rates for men and women. These differences, however, do not persist when an alcoholic group is compared. Heavy drinking, and its often concomitant heavy smoking, have a significant impact on mortality differences between men and women. Mortality rates for men and women alcoholics are far more similar than are the mortality rates shown for the general population.[43]

A 1978 study examined deaths in Canada in 1974.[46] This study estimated that six percent (4,716) of all deaths of persons age one to seventy years were attributable to hazardous drinking. The potential years of life lost as a result of this drinking amounted to 10% of all premature years lost (132,044 years).

CHAPTER SEVEN: COSTS OF ALCOHOL ABUSE

Alcohol abuse has been identified as one of the most serious public health problems in Canada. Economic costs and personal costs of alcohol abuse have substantial impact on the lives of Canadians. The Statistical Research Program of the Addiction Research Foundation of Ontario has developed formulae for measuring the costs of alcohol abuse in terms of excess use of health care services, reduced labour productivity, law enforcement costs and social welfare costs.[47] Table 18 presents these data for all of Canada and Ontario. This table also presents results of a separate analysis for Nova Scotia.[48]

In Canada, the excess cost for health care due to alcohol abuse amounted to $2 billion in 1981. This figure attests to the serious physical effects of alcohol abuse. The costs resulting from reduced productivity, social welfare and law enforcement totals another $3.3 billion.

Table 18.
Costs related to alcohol abuse for Canada and Ontario, 1981 and Nova Scotia, 1985.

Excess Costs	Canada ($ millions)	Ontario ($ millions)	Nova Scotia ($ millions)
Health care	2000	554	37.6
Law enforcement	652	168	3.3
Social welfare	1400	330	34.7
Reduced productivity	1200	503	14.4
Total	5252	1555	92.0
Per capita costs per year	215.75	180.29	106.58

Sources: International Council on Alcohol and Addictions, Nova Scotia Medical Bulletin

CONCLUSIONS

It is extremely difficult to document the true extent of alcohol abuse and alcohol-related problems in Canada. Each data set has its own unique set of limitations, and it is only when many sources of information are considered collectively that a composite picture begins to emerge. Taken together, the varied sources of information compiled in this report appear to suggest that alcohol use in Canada has begun to level off or to decline, that progress is being made in combatting specific areas of alcohol-related damage and that there is still a need to continue the comprehensive and co-ordinated attack upon alcohol abuse as embodied in the National Drug Strategy.

Per capita consumption of alcohol increased rapidly during the 1970s, peaking in 1980 at 11.3 litres of absolute alcohol per person age 15 and over. Since then, there has been a steady decline in alcohol sales which, by 1986, had fallen to 10.2 litres of absolute alcohol per person. There has been a steady shift taking place as well in consumer preferences. Sales statistics show a 20% reduction in the sale of spirits, a 4% reduction in beer sales and 9% increase in wine sales over the period 1982 to 1986.

Comparisons between the Canada Health Survey (1978-79) and the 1985 General Social Survey also support a trend toward moderation in consumption. Fewer Canadians say that they drink alcoholic beverages, and people who do drink say that they are drinking less. Although the declines are modest in size, they are reported by men and women from each age group, and in each province.

Despite these encouraging signs of progress, alcohol consumption in Canada remains widespread. Eighty-one percent of adult Canadians age 15 and over reported drinking alcoholic beverages during the past year. Among youth age 12 to 14, 45% reported drinking during the past year, 18% reported drinking the past month, and 4% admitted to drinking alcohol weekly. In studies of grade 7 students, 27% to 43% admitted using alcohol; this increased to 61% to 73% of grade 9 students and 83% to 85% of grade 11 students.

The social, economic and health costs of alcohol abuse in Canada are still unacceptably high. Different studies have suggested that between 4,000 and 5,000 deaths per year are attributable to hazardous drinking, that alcohol-related problems remain a major contributor to premature mortality among youth, and that alcohol abuse continues to contribute to a number of illnesses affecting all systems in the human body. Economic costs associated with alcohol-related damage have been estimated to be in excess of five billion dollars annually.

On the basis of the evidence provided in this report, it is clear that programs dealing with alcohol abuse must remain a cornerstone of the National Drug Strategy. And, according to a 1985 survey, there is strong support for government action to deal with alcohol problems. Clearly, a comprehensive, co-ordinated approach based upon the best information currently available is not only warranted, but essential.

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